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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Yoshikazu Miwa

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EXAMINER

DANIELS, MATTHEW J

ART UNIT

PAPER NUMBER

1732

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/720,081	Applicant(s) MIWA ET AL.	
	Examiner Matthew J. Daniels	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 15-23 and 30-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 24-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/23/04, 1/3/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 15-23, 30-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 26 January 2006.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the liquid of Claim 24 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

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renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. **Claims 5-7 and 9** are objected to because of the following informalities: the definition of "excursion" is unclear, and alternative phrasing is suggested.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claim 24** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The presence of a "fluid" (last word of claim) is not shown in the drawings, and it is unclear how the fluid is used in the molding method. Additionally, "closely onto the front and back surfaces" is unclear because it cannot be discerned how the end bending portion is bent closely onto both sides of the article.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-3** are rejected under 35 U.S.C. 103(a) as being unpatentable over Koji (JP 11-105157) in view of Sims (USPN 4385090). **As to Claim 1**, Koji teaches a molding manufacturing method, comprising:

preparing a long molding body including a molding main body made of thermoplastic material and a decorative layer (Par. [0007]), the molding main body and the decorative layer formed integrally so that the decorative layer is provided along a longitudinal direction of the molding main body on a surface thereof (Drawing 3);

setting the molding body in a fixed die (Drawing 3);

heating and softening an end portion of the molding body, by irradiating an infrared ray onto a back surface of the molding main body corresponding to the end portion of the molding body (Par. [0012]); and press forming the end portion of the molding body by pressing a movable punch onto the fixed die while the end portion of the molding body is in a heated and softened state to bend the end portion of the molding body to obtain an end cover portion having a predetermined shape (Drawings 4 and 5).

Koji appears to be silent to:

a) the decorative layer being higher than the molding main body in hardness and melt temperature

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b) heating and softening while maintaining a condition in which the decorative layer is harder than the molding main body

However, these aspects would have been prima facie obvious over Sims, who teaches a polyvinyl chloride decorative layer (1:56) and a polyethylene foam (3:35) which would obviously fulfill the conditions recited in (a) and (b) when combined with the method of Koji.

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Sims into that of Koji in order to provide a covering material to a foam article and desirably cover the edges of the article to hide seams and joints.

As to Claim 2, Koji teaches the pulsing of the infrared energy (Drawing 6). **As to Claim 3**, Koji teaches the near infrared rays and heating device (Drawing 2 and Par. [0012]).

7. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Koji (JP 11-105157) in view of Sims (USPN 4385090), and further in view of Costello (USPN 3655173). Koji and Sims teach the subject matter of Claim 3 above under 35 USC 103(a). As to Claim 4, Koji and Sims are silent to the reflecting mirror and the lamp being farther than the focal length. However, defocused radiation sources having a reflector and a lamp located at a distance farther than the focal length are conventional in the art. See Costello's teachings at 3:1-12. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Costello into that of Koji and Sims in order to provide more uniform heating of the surface (3:9).

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8. **Claims 5-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Koji (JP 11-105157) in view of Sims (USPN 4385090) and Loy (USPN 3830680). As to **Claim 1**, Koji teaches a molding manufacturing method, comprising: preparing a long molding body including a molding main body made of thermoplastic material and a decorative layer (Par. [0007]), the molding main body and the decorative layer formed integrally so that the decorative layer is provided along a longitudinal direction of the molding main body on a surface thereof (Drawing 4);

setting the molding body in a fixed die (Drawing 4);

heating and softening an end portion of the molding body (Par. [0012])

press forming the end portion of the molding body by moving the movable punch toward the fixed die along a predetermined excursion such that the movable punch fits with the fixed die at an end of the excursion, to bend the end portion of the molding body (Drawing 5).

Koji appears to be silent to:

a) the decorative layer being higher than the molding main body in hardness and melt temperature

b) heating and softening while maintaining a condition in which the decorative layer is harder than the molding main body

c) moving the movable punch obliquely toward the die

However, these aspects would have been prima facie obvious for the following reasons:

a and b) Sims teaches a polyvinyl chloride decorative layer (1:56) and a polyethylene foam (3:35) which would obviously fulfill the conditions recited in (a) and (b) when combined with the method of Koji.

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c) Loy teaches obliquely moving a die component to bend a heated thermoplastic component (Figs. 5-7)

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Sims and Loy into that of Koji in order to provide a covering material to a foam article and desirably cover the edges of the article to hide seams and joints (Sims), and to permit application of pressure into the formed corner during the die forming operation (Loy, 6:59-67). **As to Claim 6**, Koji teaches fixing the part to be formed in a longitudinal direction (Drawing 3). **As to Claim 7**, because Loy clearly suggests pressing into the corner, it would have been prima facie obvious to press at an angle which divides the bending angle of the fixed die into halves. **As to Claim 8**, because the actuator of Loy (Item 72) appears to be attached to a fixed length arm, the movement would obviously be nonlinear during actuation. **As to Claim 9**, because the actuator of Loy (Item 72) would operate in an arc, it would obviously be separate from the dividing line of the bending angle except in the vicinity of engaging the fixed die. **As to Claim 10**, because both Koji (Drawing 4) and Loy (Fig. 6) teach application of the infrared radiation to only the part to be bent or folded, by their location in an ambient environment, the fixed die and movable punches would obviously have been at an ambient temperature cooler than the temperature of the end portion. **As to Claim 11**, Loy clearly teaches trimming an end of the bent portion (2:21-26), and it would have been obvious to do so in order to improve the appearance. **As to Claim 12**, in either the method of Koji (Drawings 3-6) or Loy (Figs. 5-7), bending of the end portion while compressing between the fixed die and movable punch would have been an obvious aspect in order to improve the appearance of the edge by folding.

9. **Claims 13 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Koji (JP 11-105157) in view of Hideyasu (JP 2001-088155), Reardon (USPN 3553301), Sims (USPN 4385090) and Anderson (USPN 4035224). **As to Claim 13**, Koji teaches a molding manufacturing method, comprising: a molding main portion integrally laminated with a decorative layer (Drawing 4), a leg portion protruding from a back surface of the molding main body (Drawing 4, Item 16);

removing the leg portion from a second region consecutive with a distal side of the first region to form a step between the first region and the second region on the back side (Drawing 4, Item 18);

heating and softening an end portion of the cut piece by irradiating an infrared ray onto a back surface of the molding main body corresponding the end portion of the molding body (Par. [0012]); and

press forming the end portion of the cut piece by pressing a movable punch onto the fixed die while the end portion of the cut piece is in a heated and softened state to bend the end portion of the cut piece to obtain an end cover portion having a predetermined shape (Drawing 4).

Koji appears to be silent to the following aspects of the inventive method:

- a) extrusion molding a molding body including a molding main body, a leg portion and a pair of protruding portions, the pair of protruding portions each protruding from one of both sides of the leg portion a width direction of the molding main body
- b) cutting the molding body into a cut piece having a predetermined length;

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- c) removing the protruding portions from a back side of an end portion of the cut piece to form a first region thereon; and removing the protruding portions and the leg portion from a second region consecutive with a distal side of the first region to form a step.
- d) the decorative layer being higher than the molding main body in hardness and melt temperature
- e) heating and softening while maintaining a condition in which the decorative layer is harder than the molding main body
- f) positioning the cut piece in a longitudinal direction thereof by bringing the step into contact with the fixed die;

However, these aspects would have been prima facie obvious for the following reasons:

- a) Reardon teaches extrusion molding a molding main body (columns 3 and 4). While Reardon appears to be silent to the particular protruding portions and leg portion, Hideyasu teaches this configuration (Drawing 3).
- b) Reardon teaches trimming to a desired length (3:15)
- c) Hideyasu teaches removing the protruding portions from a back side to form a first region, and removing the protruding portions and leg portions in a second consecutive region to form a step (Drawing 7)
- d and e) Sims teaches a polyvinyl chloride decorative layer (1:56) and a polyethylene foam (3:35) which would obviously fulfill the conditions recited in (a) and (b) when combined with the method of Koji.
- f) Anderson teaches the positioning in a longitudinal direction by bringing the step into contact with a fixed die (Fig. 4, Item 17 and Fig. 5, item 131)

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Reardon, Hideyasu, Sims, and Anderson into that of Koji in order to (1) produce a component having both sealing capability and resiliency, (2) produce an aesthetically pleasing rounded edge, (3) provide a covering material to a foam article and desirably cover the edges of the article to hide seams and joints, and (4) hold the article in place to avoid movement during bending. **As to Claim 14**, Hideyasu provides embedding a core material having a greater rigidity than that of the molding main body into the leg portion (Drawing 17, item 85), removing the core material in the second region (Drawing 15, bent end), and the portion without the core material being bent (Drawing 15).

10. **Claims 24-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (USPN 4035224). **As to Claim 24**, Anderson teaches a molding manufacturing method for manufacturing a molding having an end cover portion shaped in a predetermined shape out of a long molding body (Fig. 1), comprising

preparing a molding apparatus including a fixed die (Fig. 4, Item 131), first movable punch to be used to close the fixed die (Fig. 5, Item 143), and a second movable punch (Fig. 5, Item 147), the fixed die having a back forming surface for forming a back surface of the end cover portion, the first movable punch having a front forming surface for forming a front surface of the end cover portion, and the second movable punch capable of changing a volume of a cavity formed between the front forming surface and the back forming surface (Fig. 5);

setting the molding body in the fixed die in a state that an end portion of the molding body protrudes from an end of the fixed die (Fig. 1);

heating and softening the end portion; moving the first movable punch to close the fixed die therewith (Fig. 5, Item 179), while bringing the first movable punch into contact with the end portion to bend the end portion in a back surface side thereof, to form an end bending portion in the cavity (Fig. 1, see dotted lines indicating movement to the right); and

moving the second movable punch so as to reduce the volume of the cavity to apply a compressive force to the end bending portion to press a material forming the end bending portion closely onto the front and back surfaces, while keeping the vicinity of a bending center portion of the end (Fig. 3, Fig. 5).

While Anderson appears to be silent to the fluid, it is unclear how the fluid materially affects the shaping process. See also the rejection of Claim 24 under 35 USC 112, second paragraph. In the alternative, air can be considered to be a fluid. **As to Claim 25**, Anderson teaches that the radius of curvature can be adjusted to any desired angle (Fig. 5), and thus the angle appears to represent a result-effective variable which can be optimized to produce the desired bending action. **As to Claim 26**, Anderson provides the step of moving the second movable punch forward from a distal end of the bending portion to shorten a length of the bending portion (Fig. 5). **As to Claims 27 and 28**, Anderson clearly teaches by providing a heater (Item 179) to adjust the particular temperature for molding, that this variable represents a result-effective variable which can be optimized. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to adjust the temperature of the various components to the optimum temperature for molding. **As to Claim 29**, Anderson teaches a method in which the protruding end portion of the molding body is set longer than a length of the

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end cover portion to be finally formed and shorter than a length of the front forming surface of the first movable punch (Fig. 5, Item 147);

the step of moving the first movable punch, the first movable punch closes the fixed die so that an end of the end bending portion remains in the cavity (Fig. 5); and,

in the step of moving the second movable punch, the second movable punch is moved toward a part of the cavity opposing to the end of the end bending portion (Fig. 5, Item 147).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450.

The examiner can normally be reached on Monday - Friday, 7:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaiaanni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJD 4/12/06



MARK EASHOO, PH.D
PRIMARY EXAMINER

14/Apr/06